

What is the Chihuahuan Desert Lab?

Learner Outcomes

The learner will

- Identify the purpose of the National Park Labs.
- Identify the project purpose of the Chihuahuan Desert Lab.
- Identify the project purposes of the four scientific studies of the Chihuahuan Desert Lab.
- Review course syllabus and course requirements.
- Identify course evaluation instruments.

Background

The Toyota USA Foundation, through the National Park Foundation, awarded a one-million-dollar grant to create five model outdoor laboratories in our National Park System to enhance science, mathematics and technology studies at the secondary level. In 1998, The Chihuahuan Desert Lab at Carlsbad Caverns and Guadalupe Mountains National Parks was selected to be one of the models. The other four models target the urban areas of San Francisco, Los Angeles, Washington D.C. and Boston/Lowell. The Chihuahuan Desert Lab students are contributing researchers engaged in actual resource management using the latest global positioning and geographic information systems. Other features include the incorporation of younger students learning from high school students and the assignment of high school credit for participation in the program. Students of the Chihuahuan Desert Lab will participate in a national evaluation program to compare the model with the other four.

Materials

- Supplement numbers 0.1 through 0.4

Assessments

- Course post test

Activity #1
Pre-test
30 minutes

Procedure

The teacher will

- Administer pre-test.

Activity #2
Question Storm
15 minutes

Procedure

The teacher will

- Circulate among students six questions written on separate sheets of paper, instructing each student to write at least one short response on each sheet. Students should initial their responses.

Question Sheets

1. What would you like to know today about the Chihuahuan Desert Lab course?
 2. Why are you taking the Chihuahuan Desert Lab course?
 3. What is your number one interest among these four resource management projects — bird banding, water quality, revegetation and reintroduction of prairie dogs?
 4. Which interests you more—collecting data and working in the field or analyzing data in the classroom using a geographical information system?
 5. When is it most convenient for you to participate in field trip studies – weekends, afternoons, evenings, holidays, etc?
 6. What type of transportation to field sites do you prefer – school provided transportation, driving myself in a personal vehicle, riding with a friend?
- Utilize responses on Sheets #2 through #6 to help plan participation in the various classroom and field activities.

Activity #3
Course Overview
1 class period

Procedure

The teacher will

- Respond to questions asked by students on Sheet #1.
- Explain the project purposes of the National Park Lab, the Chihuahuan Desert Lab and each of the four scientific studies.
- Discuss course expectations.
- Discuss course work implications.
- Discuss overall course evaluation.
- Respond to all Activity #2 questions left unanswered.

Where the National Park Service Fits into the Picture

Learner Outcomes

The learner will

- Gather information about the National Park System through participation in a variety of activities facilitated by an employee of the National Park Service.
- Gather information about the National Park Service and its partners through inquiry in a panel presentation.

Background

Refer to supplements.

Materials

- Supplements numbers 0.5 through 0.10 and 0.14

Activity #1

The National Park Service

1 class period

Procedure

The teacher will

- In advance, arrange for a guest speaker from the National Park Service to present information on the following:
 - The Establishment of the National Park Service
 - The National Park System: An Overview
 - Laws Pertaining to Research on Public Lands
 - Services and Information provided by the National Park Service

Note: The presenting ranger will use a variety of activities to reach objectives.

Activity #2

Partners in Education

1 class period

Procedure

The teacher will

- Invite guest speakers from a variety of land management agencies to serve on a panel. Each member of the panel will explain how their agency utilizes the knowledge and skills that will be taught in the Chihuahuan Desert Lab course.
- Allow students to interview the various representatives concerning their missions and the services that their agencies provide.

Creation of a National Park

Learner Outcomes

The learner will

- Determine the essential elements of creating and maintaining a national park.
- Problem solve to develop an *ideal* Carlsbad Caverns or Guadalupe Mountains national park from a current date of establishment.
- Present, as part of a team, a general management plan, a 3-dimensional model, publications (maps, brochures, etc.) of the team's newly created *park*.

Background

In reality, creation and development of a national park is a long and on-going process. A general management plan, alone, takes a team of professionals a year or two to develop and write. Students will not be able to produce masterpieces--the fact is that the umbrella project is one of six Chihuahuan Desert Lab projects, and the Chihuahuan Desert Lab course is one of six courses, that demands the student's time during a single semester.

As presented within this module, the creation of a *national park* is not a true social science project. While using social science methods would be ideal, time does not permit such treatment of the umbrella project in the one-semester Chihuahuan Desert Lab course. However, students in a locale that plans to participate in a limited number of field activities, might wish to modify the umbrella project to make it a social science project.

As part of the Chihuahuan Desert Lab course, the *Create-A-Park* activity's primary purpose is to help students realize the complexity of the creation, development and administration of a unit of the National Park System. It is hoped that students will complete the umbrella project with a greater appreciation of the mission of the National Park Service and a desire to be good stewards of their public lands.

Materials

- Supplements numbers 0.1, 0.2, 0.11, 0.12
- Copies of park publications (i.e., general management plan, maps, etc.)
- Computers (GIS, spreadsheet, graphing software)
- Publishing supplies
- Various presentation equipment and supplies

Assessments

- Grade card
- Post-test

Activity #1

Create-A-Park

1 class period initially

Set aside class time as needed throughout the semester.

Procedure

The teacher will

- Divide students into teams (approximately 5 students in each team).
- Make semester-long assignments: Develop either Carlsbad Caverns National Park or Guadalupe Mountains National Park *from scratch*. Teams are to use the first day of the course as the date the park was established by Congress.
- Have students consider their tasks and brainstorm. Use supplements to make certain the students address all issues in their brainstorming sessions.

Activity #2

Present-A-Park

2 class periods

Procedure

The teacher will

- Allow 15 - 20 minutes for each team's presentation during class time.
- Have students complete grade cards.
- Arrange a Family Night to present projects.

Activity #3

Post-test

30 minutes on the last day of class

Procedure

The teacher will

- Administer post-test to determine knowledge gained during the course of the semester